

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-23. (Canceled)

24. (Previously presented) A semiconductor device comprising:

a semiconductor film;

a pair of first impurity regions being formed in the semiconductor film;

an active region formed between the pair of first impurity regions in the semiconductor film;

at least two second impurity regions formed in said semiconductor film between the pair of first impurity regions;

at least one channel region between the at least two second impurity regions,

boundaries between the channel region and the at least two second impurity regions extend in a direction along a carrier flow direction of the channel region.

a floating gate formed over and insulated from the active region; and

a control gate formed over and insulated from the floating gate,

wherein the floating gate overlaps a boundary between at least one of the pair of the first impurity regions and the at least two second impurity regions.

25. (Previously presented) A semiconductor device according to claim 24, wherein the at least two second impurity regions have a striped shape.

26-27. (Canceled)

28. (Previously presented) A semiconductor device according to claim 24, wherein an electronic device mounting the semiconductor device is any one of a mobile computer, a head-mounted display, a video camera, a cellular phone, a digital camera, a rear type projector, a front type projector.

29. (Previously presented) A semiconductor device comprising:

- a NOR type circuit having a plurality of memory transistors, the memory transistor comprising:
 - a semiconductor film;
 - a pair of first impurity regions being formed in the semiconductor film;
 - an active region formed between the pair of first impurity regions in the semiconductor film;
 - at least two second impurity regions formed in said semiconductor film between the pair of first impurity regions;
 - at least one channel region between the at least two second impurity regions, boundaries between the channel region and the at least two second impurity regions extend in a direction along a carrier flow direction of the channel region.
 - a floating gate formed over and insulated from the active region; and
 - a control gate formed over and insulated from the floating gate,
- wherein the floating gate overlaps a boundary between at least one of the pair of the first impurity regions and the at least two second impurity regions.

30. (Previously presented) A semiconductor device according to claim 29, wherein the at least two second impurity regions have a striped shape.

31-32. (Canceled)

33. (Previously presented) A semiconductor device according to claim 29, wherein an electronic device mounting the semiconductor device is any one of a mobile computer, a head-mounted display, a video camera, a cellular phone, a digital camera, a rear type projector, a front type projector.

34. (Previously presented) A semiconductor device comprising:

- a NAND type circuit having a plurality of one memory transistor, the memory transistor comprising:
 - a semiconductor film;
 - a pair of first impurity regions being formed in the semiconductor film;
 - an active region formed between the pair of first impurity regions in the semiconductor film;
 - at least two second impurity regions formed in said semiconductor film between the pair of first impurity regions;
 - at least one channel region between the at least two second impurity regions, boundaries between the channel region and the at least two second impurity regions extend in a direction along a carrier flow direction of the channel region.
 - a floating gate formed over and insulated from the active region; and
 - a control gate formed over and insulated from the floating gate,

wherein the floating gate overlaps a boundary between at least one of the pair of the first impurity regions and the at least two second impurity regions .

35. (Previously presented) A semiconductor device according to claim 34, wherein the at least two second impurity regions have a striped shape.

36-37. (Canceled)

38. (Previously presented) A semiconductor device according to claim 34, wherein an electronic device mounting the semiconductor device is any one of a mobile computer, a head-mounted display, a video camera, a cellular phone, a digital camera, a rear type projector, a front type projector.

39. (Previously presented) A semiconductor device comprising:
a semiconductor film;
a pair of first impurity regions being formed in the semiconductor;
an active region formed between the pair of first impurity regions in the semiconductor film;
at least two second impurity regions formed in said semiconductor film between the pair of first impurity regions;
at least one channel region between the at least two second impurity regions,
a floating gate formed over and insulated from the active region; and
a control gate formed over and insulated from the floating gate,

wherein the at least two second impurity regions have a dot-like shape or an elliptical shape;

wherein the floating gate overlaps a boundary between at least one of the pair of the first impurity regions and the at least two second impurity regions.

40. (Canceled).

41. (Previously presented) A semiconductor device according to claim 39 further comprising a substrate, wherein the semiconductor film is formed over the substrate.

42. (Canceled).

43. (Previously presented) A semiconductor device according to claim 39, wherein an electronic device mounting the semiconductor device is any one of a mobile computer, a head-mounted display, a video camera, a cellular phone, a digital camera, a rear type projector, a front type projector.

44. (Previously presented) A semiconductor device comprising:
a NOR type circuit having a plurality of memory transistors, the memory transistor comprising:

a semiconductor film;

a pair of first impurity regions being formed in the semiconductor film;

an active region formed between the pair of first impurity regions in the semiconductor film;

at least two second impurity regions formed in said semiconductor film between the pair of first impurity regions;

at least one channel region between the at least two second impurity regions,

a floating gate formed over and insulated from the active region; and

a control gate formed over and insulated from the floating gate,

wherein the at least two second impurity regions have a dot-like shape or an elliptical shape;

wherein the floating gate overlaps a boundary between at least one of the pair of the first impurity regions and the at least two second impurity regions.

45. (Canceled).

46. (Previously Presented) A semiconductor device according to claim 44 further comprising a substrate, wherein the semiconductor film is formed over the substrate.

47. (Canceled).

48. (Previously presented) A semiconductor device according to claim 44, wherein an electronic device mounting the semiconductor device is any one of a mobile computer, a head-mounted display, a video camera, a cellular phone, a digital camera, a rear type projector, a front type projector.

49. (Previously presented) A semiconductor device comprising:

a NAND type circuit having a plurality of one memory transistor, the memory transistor comprising:

a semiconductor film;

a pair of first impurity regions being formed in the semiconductor film;

an active region formed between the pair of first impurity regions in the semiconductor film;

at least two second impurity regions formed in said semiconductor film between the pair of first impurity regions;

at least one channel region between the at least two second impurity regions,

a floating gate formed over and insulated from the active region; and

a control gate formed over and insulated from the floating gate; wherein the at least two second impurity regions have a dot-like shape or an elliptical shape;

wherein the floating gate overlaps a boundary between at least one of the pair of the first impurity regions and the at least two second impurity regions.

50. (Canceled).

51. (Previously presented) A semiconductor device according to claim 49 further comprising a substrate, wherein the semiconductor film is formed over the substrate.

52. (Canceled).

53. (Previously presented) A semiconductor device according to claim 49, wherein an electronic device mounting the semiconductor device is any one of a mobile computer, a head-

mounted display, a video camera, a cellular phone, a digital camera, a rear type projector, a front type projector.

54. (Currently amended) A semiconductor device according to claim 24 further comprises an insulating layer that underlies the semiconductor ~~layer~~ film, wherein the insulating layer comprises the same conductivity type impurity element as the at least two second impurity regions.

55. (Currently amended) A semiconductor device according to claim 29 further comprises an insulating layer that underlies the semiconductor ~~layer~~ film, wherein the insulating layer comprises the same conductivity type impurity element as the at least two second impurity regions.

56. (Currently amended) A semiconductor device according to claim 34 further comprises an insulating layer that underlies the semiconductor ~~layer~~ film, wherein the insulating layer comprises the same conductivity type impurity element as the at least two second impurity regions.

57. (Currently amended) A semiconductor device according to claim 39 further comprises an insulating layer that underlies the semiconductor ~~layer~~ film, wherein the insulating layer comprises the same conductivity type impurity element as the at least two second impurity regions.

58. (Currently amended) A semiconductor device according to claim 44 further

comprises an insulating layer that underlies the semiconductor ~~layer~~ film, wherein the insulating layer comprises the same conductivity type impurity element as the at least two second impurity regions.

59. (Currently amended) A semiconductor device according to claim 49 further comprises an insulating layer that underlies the semiconductor ~~layer~~ film, wherein the insulating layer comprises the same conductivity type impurity element as the at least two second impurity regions.